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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,112	02/24/2004	Christoph Beuerle	I-25097	9114

46582 7590 03/31/2005

MACMILLAN, SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA - FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604

EXAMINER

WILLIAMS, THOMAS J

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/785,112	<b>Applicant(s)</b> BEUERLE ET AL.	
	<b>Examiner</b> Thomas J. Williams	<b>Art Unit</b> 3683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.  
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10,12-15,17-19 and 21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-10,12-15,17-19 and 21 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☒ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 2, 2005 has been entered.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-10, 12-15, 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,915,504 to Doricht in view of US 5,297,430 to Sonderegger et al.

Re-claims 1-6, 17-19 and 21, Doricht teaches a disc brake, comprising: two brake shoes 25, a brake disc 3; a conversion device 60 is connected to a motor 56 and converts a driving

motion into an actuating motion; a support device 62 takes up a reaction force; an annular force sensor 69 measures the reaction force, the force sensor is arranged between opposing faces of the conversion device and the support device and is interpreted as a bearing since it does act to support disc 63 of the conversion device. However, Doricht is silent regarding the actual construction of the force sensor, such as comprising a plurality of sensors or their respective positions relative to each other.

Sonderegger et al. teaches a commonly known annular force sensor that comprises at least four piezoelectric sensing elements 6 that are arranged 90 degrees relative to each other, the sensor has a planar form. It would have been obvious to one of ordinary skill in the art to have utilized the force sensor of Sonderegger et al. when having constructed the disc brake according to Doricht, the sensor would have been an available off the shelf item thus reducing manufacturing costs.

Re-claim 7, the support device is coupled rigidly to a housing of the disc brake.

Re-claim 8, the support device comprises a step portion.

Re-claim 9, the force sensor is provided in the step.

Re-claim 10, a carrier 63 is disposed between the conversion device and the support device and receives the sensor elements.

Re-claims 12-15, the conversion device converts rotary motion into linear motion, and comprises a nut/spindle unit (see figure 2), the support device interacts with a component 63 of the conversion device, the support device comprises a step.

*Response to Arguments*

5. Applicant's arguments filed February 2, 2005 have been fully considered but they are not persuasive. As stated in the above rejection annular disc 69 is interpreted as a bearing element, since disc 69 does appear to support cam element 63. Sonderegger et al. is merely relied upon to teach the structure of annular/planer force sensors. It is the opinion of the examiner that the sensor disc of Sonderegger et al. is capable of use in various systems.

*Conclusion*

6. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is (703) 305-1346 (after April 2005 the new telephone number will be 571-272-7128). The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bucci, can be reached at (703) 308-3668 (after April 11, 2005 the new telephone number will be 571-272-7099). The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

TJW

March 22, 2005

THOMAS WILLIAMS  
PATENT EXAMINER

Thomas Williams  
AU 7683  
3-22-05